<p style="text-align:center">Summer 2020: MAT 517/MAE 330</p>

<p style="text-align:center">Calculators and Computers for Teachers</p>

Instructor: Dr. Alaa Abd-El-Hafez
Email: alaa.abdelhafez@stonybrook.edu
Class Time: Tu & Th from 6:00 to 9:25 PM
Office Hours: Tuesday: 9:30 - 10:30 PM
 Thursday: 9:30 – 10:30 PM
 Office hours will be on Zoom. The link is:
 https://stonybrook.zoom.us/j/8189776222

Course Description: This is a 3-credit course designed to help students use technology in facilitating their instruction. Students will use *Latex* to create mathematical documents (eg., exams) and communicate mathematical ideas in writing. They will use *ActivePresenter and Prezi* to create math lesson plans and explain a given topic. Students will also create their own websites for use in teaching mathematics. *Geogebra* and/or *Geometers Sketchpad* will be used to create pedagogical demonstrations. Students will use a graphing calculator for computing and curve sketching and design a gradebook using Excel.

*This course will be delivered online on zoom (*https://stonybrook.zoom.us/j/8189776222*) during the same/day time the class is scheduled to meet.*

Here are the instructions:

1) Go to https://stonybrook.zoom.us/j/8189776222
2) You may have to download the "pop-ups" if this is your first time using Zoom.
3) Done! You are in class.
4) You must have headphones.

Material Required: A graphing calculator (TI-84) and a laptop with Latex and TexMaker, Geogebra, and ActivePresenter. All other materials will be posted on blackboard.

Grading:
- Presentations and Participation (15%)
- Assignments (40%)
- Quizzes (5%)
- Teach Your Peers Project (10%)
- Final Project (30%)

Presentations and Participation: Students must be prepared and on time. Lateness or leaving early, along with being unprepared in general, will result in a lowered participation grade. Cell phones and beepers should be silenced during class time. Use of personal email and text messaging during class will also result in a lowered participation grade. We are building a classroom community. As such, I require no outside work be done during class time. I reserve

the right to view your laptop or smartphone if it is being used during class time. Points will be lost for any work not related to the immediate class discussion.

Assignments: There will be a total of four assignments, which will be posted on blackboard every Tuesday in the *Documents* folder. Assignments are to be written carefully and emailed to alaa.abdelhafez@stonybrook.edu at the **beginning** of the lecture on Tuesday of the following week. No late homework assignments will be accepted. Each assignment is worth 10% of your grade. A rubric will be provided for each assignment on blackboard.

Quizzes: There will be few unannounced quizzes in class over the course of the semester, based on the homework assignment and the lecture for that week.

Teach Your Peers Project: Students will think of new ways that technology can be introduced to the math classroom and demonstrate its use to their peers. Students may have up to an hour and half for their demonstrations. Some ideas may include an app on an iphone that may facilitate math instruction, surface pro, programming with Python, Introduction to Maple, Stat IC/13, KH Coder, etc. Topic must be approved before presentation. A rubric will be provided on blackboard.

Final Project: Students will use the tools and technology learned in this course, to create a math lesson plan on a topic of their choice to students in high school. The lesson plan:
a) Is geared to a high school audience and focuses on technology. (*4 points*)
b) Must be written in Latex (will submit pdf and tex files). (*4 points*)
c) Follows the lesson plan format attached. *(4 points)*
d) Requires students to utilize a graphing calculator or Geogebra. *(4 points)*
e) Has a 10-15 minute summary using ActivePresenter for absent students. *(6 points)*
f) Will be posted on your Weebly website and a hard copy will be provided on the 16th *(4 points)*
All students will give a 15 minute presentation on their lesson plan. *(4 points)*

The following is a tentative course outline and will be updated as needed.

Week 1: July 7 & 9: Using Latex
    Assignment # 1 due July 14

Week 2: July 14 & 16: Using Geogebra and Geometers Sketchpad
    Assignment # 2 due July 21

Week 3: July 21 & 23: Using Graphing Calculator and Desmos
    Teach Your Peers Project due July 23
    Assignment # 3 due July 28

Week 4: July 28 & 30: Using Prezi, Powtoons, OneNote, Screencast-o-matic, ActivePresenter and ExplainEverything
Assignment # 4 due August 4

Week 5: August 4 & 6: Using Edpuzzle, Weebly, Excel, and Educational use of the world wide web
Final project due August 11

Week 6: August 11 & 13: Catch-up and Presentations of Final Projects.

Academic Dishonesty: Cheating, copying, and other dishonesty will not be tolerated under any circumstances. Students engaging in such acts will be reported immediately to Academic Judiciary.

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

DSS advisory: If you have a physical, psychological, medical, or learning disability that may affect your course work, please contact Disability Support Services (DSS) office: ECC (Educational Communications Center) Building, room 128, telephone (631) 632-6748/TDD. DSS will determine with you what accommodations are necessary and appropriate. Arrangements should be made early in the semester (before the first exam) so that your needs can be accommodated. All information and documentation of disability is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and DSS. For procedures and information, go to the following web site http://www.ehs.sunysb.edu and search Fire safety and Evacuation and Disabilities.

Lesson Plan Template

Learning Objective(s):

Standards:

Materials:

Warm Up:

Development/Procedure:

 Closure:

Assignment (Homework):